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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,936	09/16/2003	Brett M. Dennis	58978US002	2328
32692	7590	06/01/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			HAN, JASON	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	
			2875	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/663,936	Applicant(s) DENNIS, BRETT M.	
	Examiner Jason M. Han	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/12/04 & 12/13/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: second input surface [Figure 5: (114)]. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 8 is not described. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement

Art Unit: 2875

Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “150” has been used to designate both an LED in Figure 9 and another component in Figure 8. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8, and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishio et al. (U.S. Patent 5592332).

5. With regards to Claim 1, Nishio discloses a backlight including:
 - A source of diffuse light [Figure 20: (41-45)]; and
 - A light transmissive film [Figure 20: (10, 20)] having a structured surface [Figure 20A] being on a side of the film facing said source of diffuse light such that the film directs light from the source of diffuse light into a plurality of intensity lobes in different directions [Figures 22A-C].
6. With regards to Claim 2, Nishio discloses the light source including a light guide [Figure 20: (41)].
7. With regards to Claim 3, Nishio discloses the light guide [Figure 20: (41)] having a form of a slab.
8. With regards to Claim 4, Nishio discloses the light guide having a first input surface [Figure 20: proximate (43)].
9. With regards to Claim 5, Nishio discloses the light source including a first cold cathode fluorescent tube [Figure 20: (43)] adjacent the first input surface.
10. With regards to Claim 6, Nishio discloses the light guide including a second input surface [Figure 20: proximate (43)] and the light source including a second cold cathode fluorescent tube [Figure 20: (43)] adjacent said second input surface.
11. With regards to Claim 8, Nishio discloses the second input surface parallel to the first input surface [Figure 20: proximate (43)].
12. With regards to Claim 13, Nishio discloses the film directing light into two primary intensity lobes [Figure 22A].

Art Unit: 2875

13. With regards to Claim 14, Nishio discloses the film directing light into four primary intensity lobes [Figure 22B].

14. With regards to Claim 15, Nishio discloses the structured surface having triangular prisms thereon [Figures 1-4, 20A].

15. With regards to Claim 16, Nishio discloses the triangular prisms having the shape of isosceles triangles [Figure 3].

16. With regards to Claim 17, Nishio discloses the prisms being right isosceles prisms [Column 8, Line 24].

17. Claims 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishio et al. (U.S. Patent 5592332).

18. With regards to Claim 18, Nishio discloses a backlight including:

- A source of diffuse light [Figure 20: (41-45)]; and
- A light transmissive film [Figure 20: (10, 20)] having a structured surface [Figure 20A] being on a side of the film facing said source of diffuse light such that the film directs light from the source of diffuse light into a plurality of intensity lobes in different directions [Figures 22A-C]; and
- A light valve [Column 1, Lines 9-14] that is a liquid crystal display (re: Claim 19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2875

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al. (U.S. Patent 5592332) as applied to Claim 6 above, and further in view of Funamoto et al. (U.S. Patent 5619351).

Nishio discloses the claimed invention as cited above, but does not specifically teach the second input surface adjacent the first input surface (re: Claim 7), nor the light guide further including a third input surface whereby a third cold cathode fluorescent tube is adjacent thereto (re: Claim 9).

Funamoto teaches a backlight unit wherein an L-shaped fluorescent lamp [Figure 4: (22)] is proximately disposed about two adjacent input surfaces [Figure 4: (41c-d)] of a light guide [Figure 4: (21)], as well as a U-shaped fluorescent lamp [Figure 15: (62)] being adjacently disposed about three input surfaces of a light guide [Figure 15: (41a, 41c, 41d)]. In addition, Funamoto teaches, "Instead of using one high output fluorescent tube, it is also conceivable to increase the number of fluorescent tubes [Column 1, Lines 51-52]", which has several disadvantages according to Funamoto.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the backlight of Nishio to incorporate the multiple input surfaces with adjacent fluorescent lamps of Funamoto, so as to increase the illumination intensity and uniformity.

20. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al. (U.S. Patent 5592332).

Nishio discloses the claimed invention as cited above, but does not specifically teach the light guide being in the form of a wedge.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the light guide of Nishio into a wedge shape, since it has been held to be within the general skill of a worker that mere change of form or shape of an invention involves only routine skill in the art. *Span-Deck Inc. c. Fab-Con, Inc.* (CA 8, 1982) 215USPQ 835. In this case, altering the shape of the light guide into a wedge may affect the illumination to a desired preference [e.g., greater uniformity via total internal reflection].

21. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al. (U.S. Patent 5592332) as applied to Claim 2 above, and further in view of Endo (U.S. Patent 6665038).

Nishio discloses the claimed invention as cited above, but does not specifically teach the light source including a light emitting diode (re: Claim 11) nor a electroluminescent panel (re: Claim 12).

Endo teaches, "The LED 16 is a light-emitting diode attached onto the spur 15. It can be luminous body other than a light-emitting diode. Other luminous bodies, for example, are the so-called light bulb, a semiconductor laser, a fluorescent tube, and inorganic electroluminescence element, and an organic electroluminescence element [Column 4, Lines 4-9]."

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the backlight of Nishio to incorporate either an LED or an

electroluminescent element, as taught by Endo, in order to provide a more compact light source.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art pertinent to the current application, but are not considered exhaustive:

US Patent 6404468 to Niwano et al;

US Patent 6445504 to Suga et al;

US Patent 6560026 to Gardiner et al;

US Patent 6570710 to Nilsen et al;


US Patent 6880946 to Mullen.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2875

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Stephen Husar
Primary Examiner

JMH (5/25/2005)